

Flight Scientist Report
Friday 02/14/2020 ACTIVATE RF01

Flight Type: Statistical Survey Flight - Clouds
Flight Route: ATLIC-ZIBUT-ISLES (avoiding bad weather conditions elsewhere)
Special Notes: NA

King Air

3.5 hrs

- Need to refine some timing things
 - Should have taken off first today because of winds
- ADSB was in an out for seeing the other aircraft (for both)?
- Started at 20kft and then down to 18kft.
- Good communication between aircraft
 - King Air was doing comm to ATC for Falcon; radios not working well when down low.
- Rich Moore plotted it up on the ground; looked good.
- Came back with 2300 lbs so maybe 15min available.

Instruments:

AVAPS: sondes had signal half way down on what was showing on the screen. Launched one just after ZIBUT, ISLES, and then just after ZIBUT on the way back.

RSP: on most the time, covered shutter at ZIBUT but had cirrus above most of the flight.

HSRL-2: Fine

Falcon

3.1 hrs

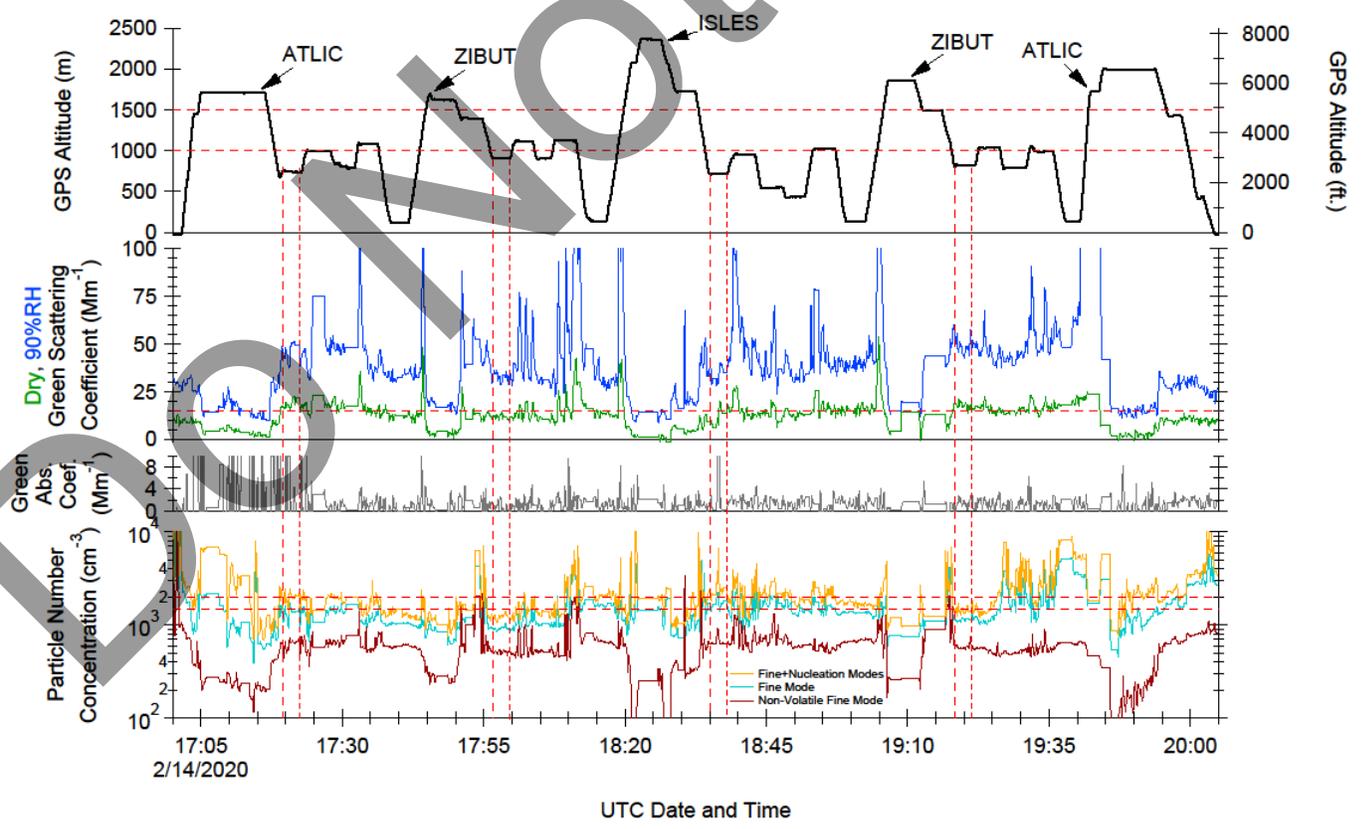
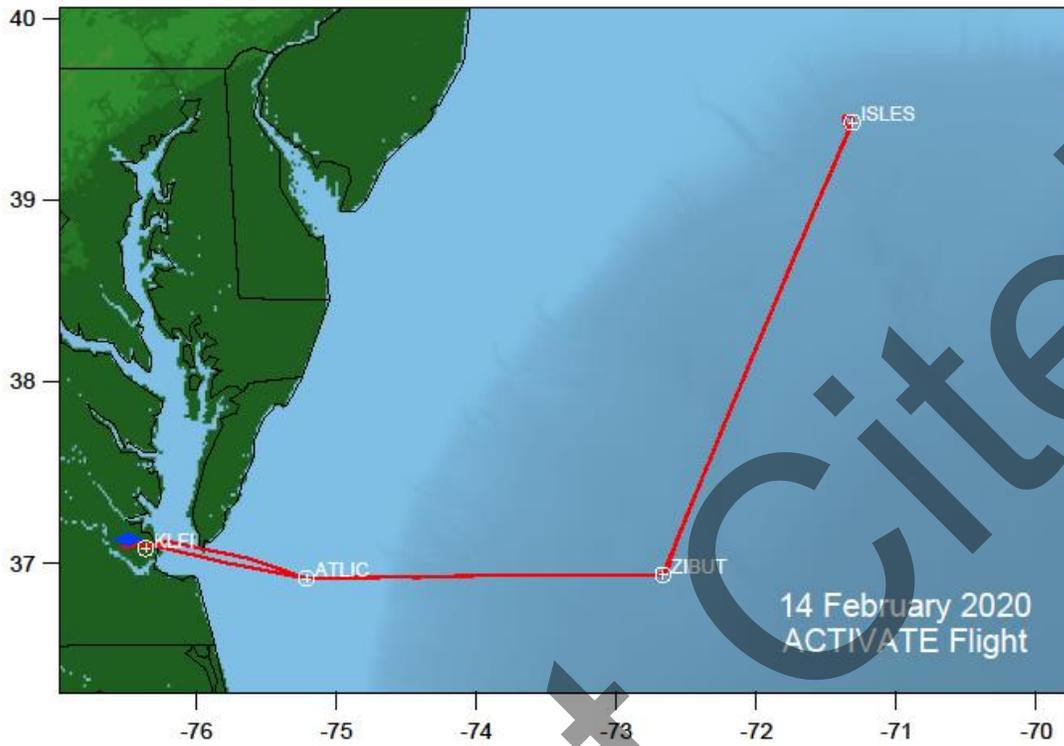
- Learned more about power swaps – trying a different technique tomorrow
- ~4 cloud ensembles – did extend a few of the legs (about 40-45 mins for a module)
- Finished first ensemble in one hour.
- Climb rate 1500ft/min up and 2000ft/min down. At ATLIC went to 6kft.
- Was some icing – trace to light. Most of the icing was just outside of ZIBUT and then at the north end.
- Some light rain. Mixed phase precip and liquid precip below cloud base.
- Need to decide what to do when we see precip under cloud
 - Extended those legs today
- Low altitude rules were good.
- Was a good day to run the first run and had higher bases.
- Max alt on 1 was 7kft, which added time
- Slowed down after turn as the King Air was in headwinds. Some scattered clouds on transit back towards the end.
- Clouds matched ECMWF forecast well.
- Radio comms were needed from King Air.

Instruments:

Generally good, some things to fix.

Do Not Cite!

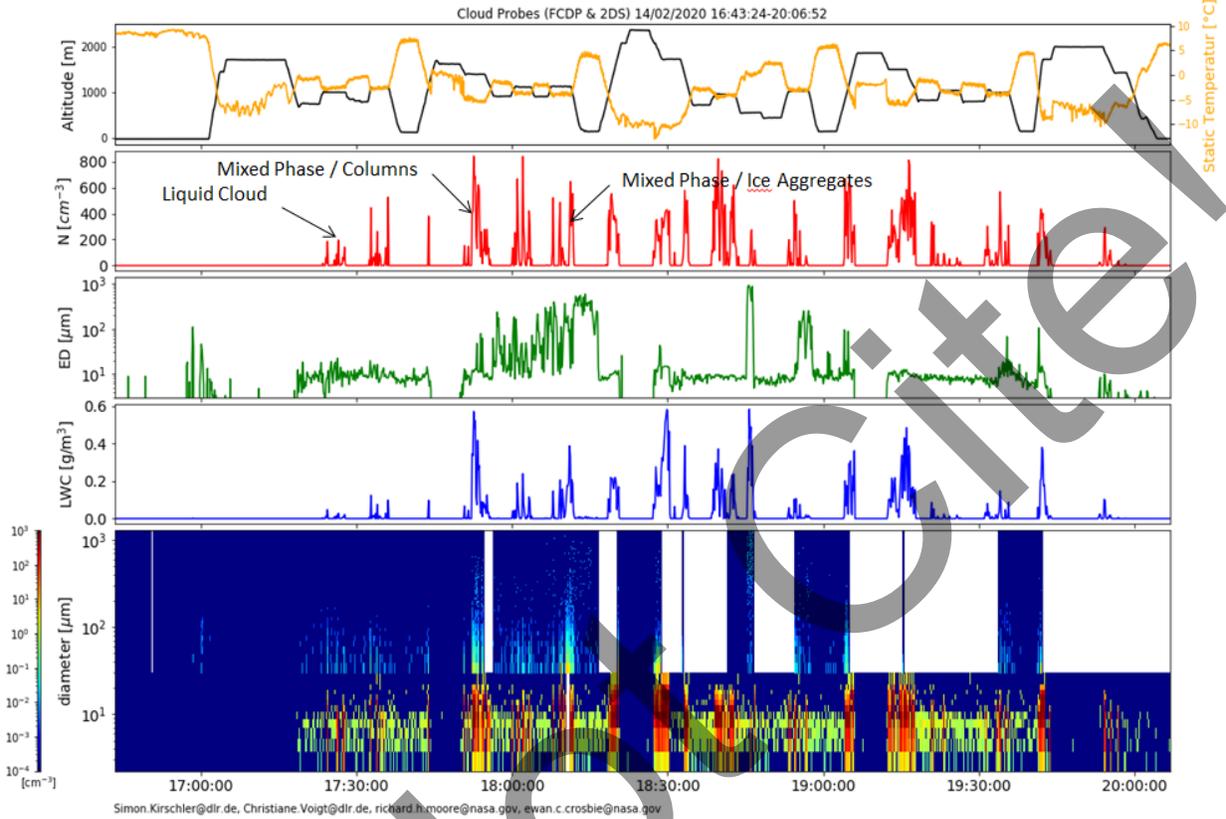
Rich Moore Quicklook Images:



Quicklook ACTIVATE Cloud Probes (FCDP & 2DS)

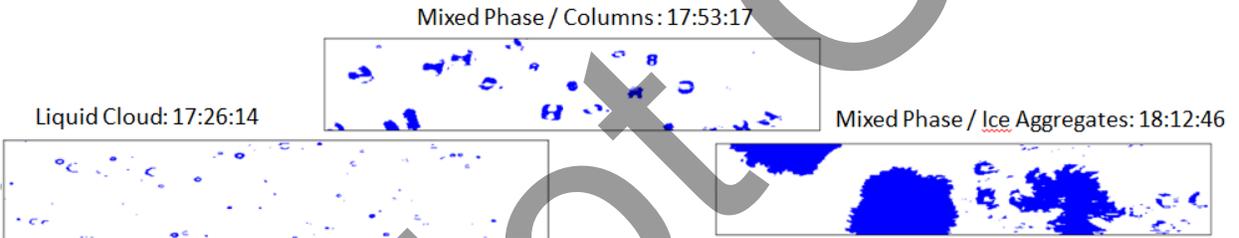
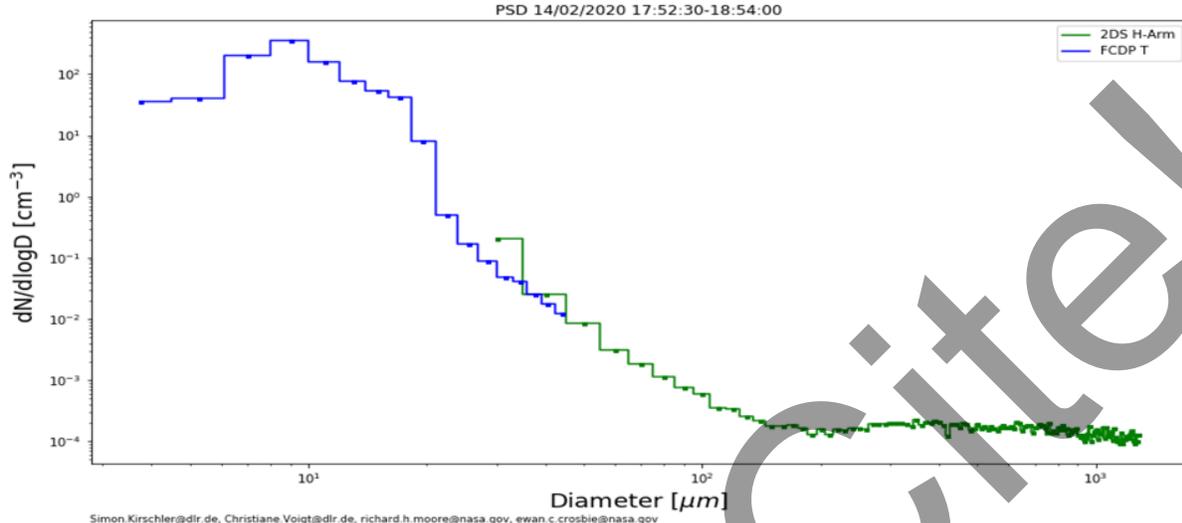
preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



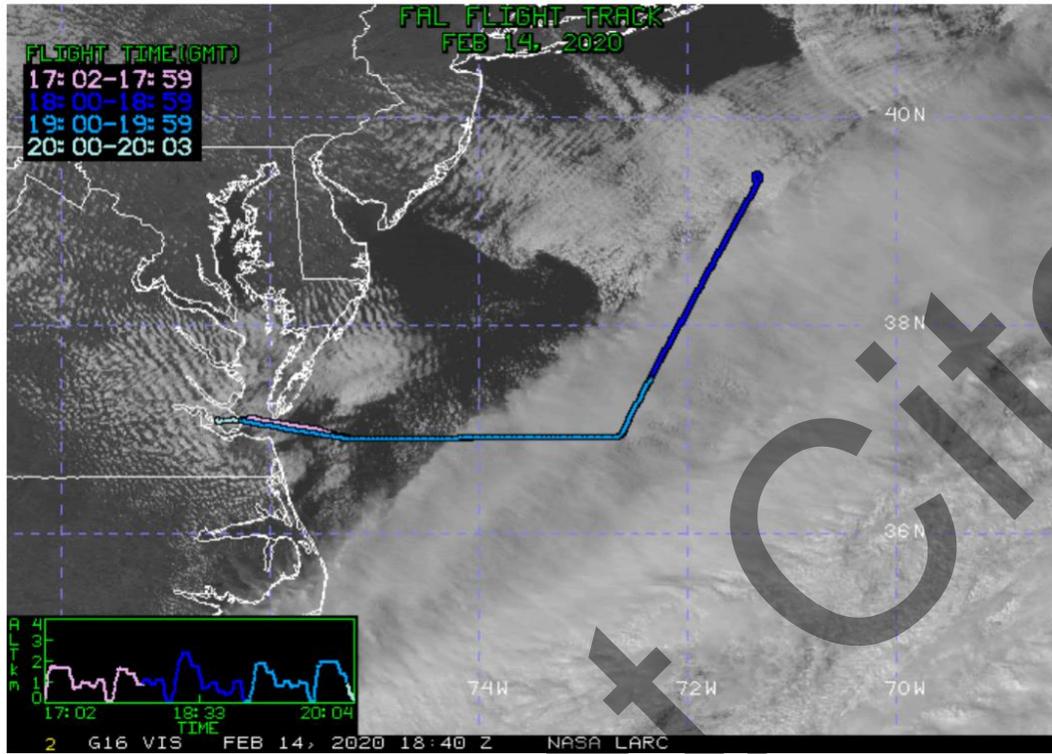
PSD ACTIVATE

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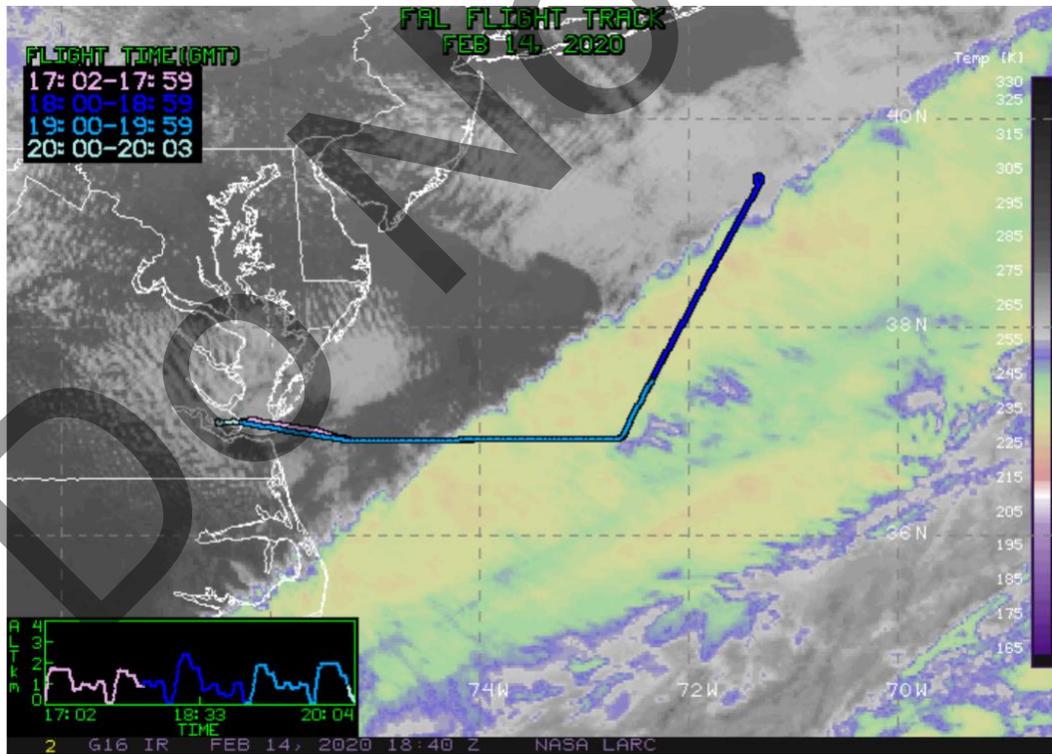


Satellite Group Images (from Middle of Flight):

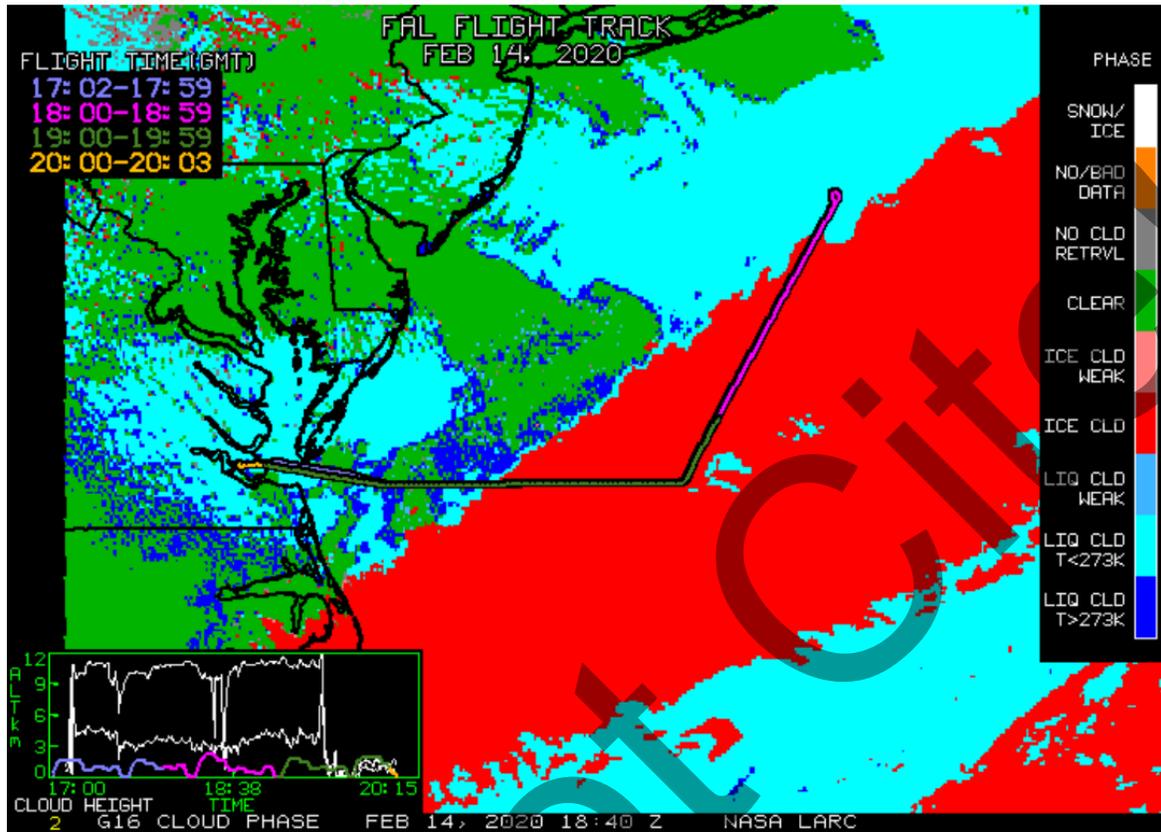
Visible



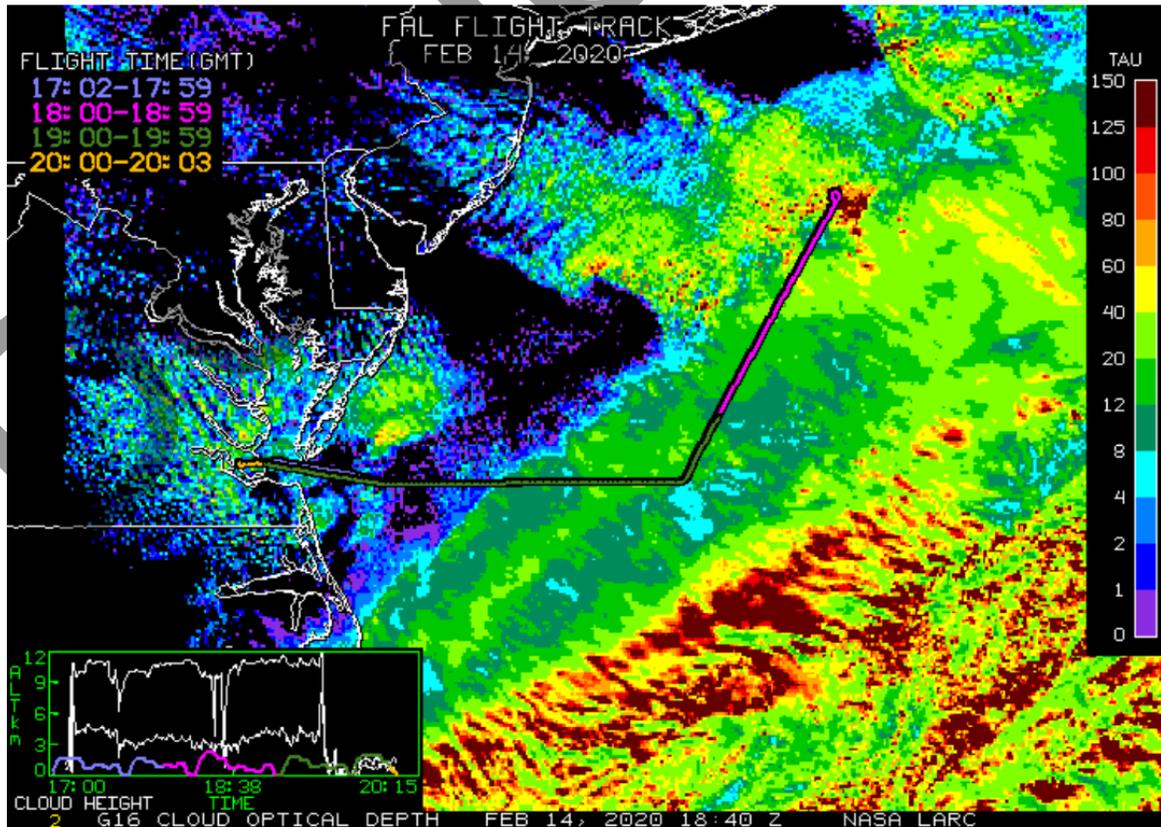
Infrared



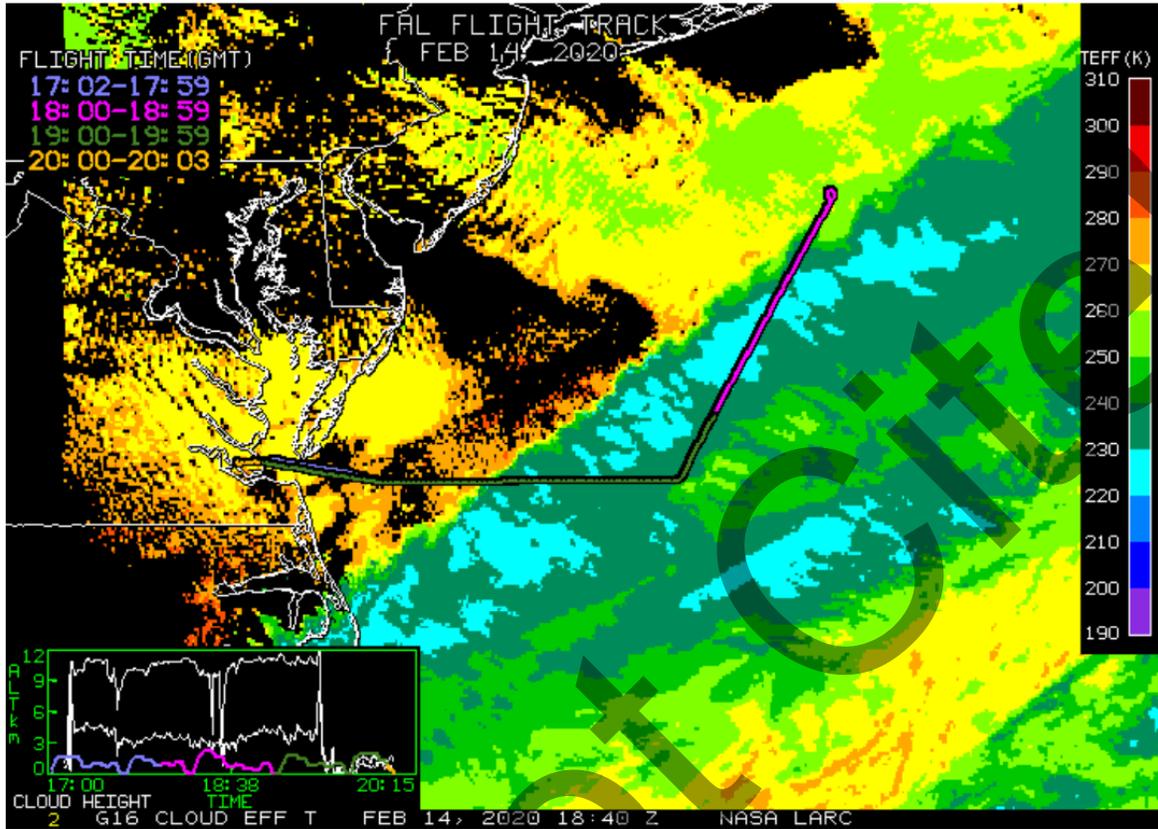
Cloud Phase



Cloud Optical Depth



Cloud Effective Temperature (K)



Cloud-Top Height (Kft-ASL)

